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U.S. & FOREIGN PATENTS

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APPLICANT(S): Allen, Drew EXAMINER: to be accorded  
SERIAL No.: to be accorded ART UNIT: 3732  
FILED: to be accorded  
TITLE: COMPRESSION BONE STAPLE AND APPLICATOR

**PRELIMINARY AMENDMENT**

Commissioner of Patents & Trademarks

Washington, D. C. 20231

Sir:

Please enter the following preliminary amendment in the above-identified (Sec. 1.53(b) Continuation) of Application No. 09/500,060, filed 02/08/00, for Compression Bone Staple Apparatus and Method (Original title), and allowed 07/12/01.

IN THE SPECIFICATION

Please replace the entire original specification with the accompanying substitute specification.

Insert before the first line of the substitute specification, the following sentence:

--This is a continuation of application Serial No. 09/500,060, filed 02/08/00, and No. 09/299,285 filed 04/26/99, now U.S. Pat. No. 6,059,787.

--.

IN THE CLAIMS

Replace the claims with the following new claims, (37 – 48):

37. A compression staple for fastening a first bone segment to a second bone segment, said staple comprised of a resilient material and having a generally U-shaped configuration, and comprising:

a) first and second spaced-apart longitudinally extending legs with sharp free ends and proximal ends;

b) a bridge portion interconnecting the proximal ends of said legs; and

wherein said legs have a convergent orientation, one to the other, and said legs are adapted to be resiliently held in a parallel orientation wherein said legs are urged towards their initial convergent orientation with a predetermined force.

38. A staple as defined in claim 37 wherein said legs are wider than said bridge portion.

39. A staple as defined in claim 38 wherein said bridge portion lies to one side of said legs and the other sides of said legs have opposing generally flat surfaces.

40. A bone staple applicator for a generally U-shaped staple having a first and a second spaced apart legs with sharp free ends and proximal ends interconnected by a bridge portion, and an initial configuration where said legs are convergently oriented, and said staple capable of a tensioned configuration in which said legs are held in parallel relationship, said staple applicator including:

a) an elongate body with a front end and a rear end, and including:

i) means on said body front end for supporting said staple against rearward and lateral movement with the sharp ends of its legs forwardly disposed, and adapted for engaging opposing portions said legs and moving said legs into parallel relationship.

41. A bone staple applicator as defined in claim 40 wherein said tool body has a handle portion, and said rear end is adapted for being struck a percussive blow.

42. A bone staple applicator for a generally U-shaped staple having a first and a second spaced-apart legs with sharp free ends and proximal ends interconnected by a bridge portion, and wherein said legs have an initial convergent orientation one to the other, and said staple capable of a tensioned configuration in which said legs are held in parallel relationship, said parallel legs urged towards their initial convergent orientation by certain spring force; said staple applicator including:

a) a longitudinally extending body with a front end and a rear end, and including:

i) means on said body front end for supporting said staple in its tensioned configuration with the sharp ends of its legs forwardly disposed, and adapted for engaging opposing inside surfaces of said legs and for guiding longitudinal forward movement of said tensioned staple;

ii) means for moving said staple from its initial orientation to its tensioned configuration, and for delivering said staple to said staple supporting means; and

iii) means mounted to said body for striking the rear end of said tensioned staple with percussive force for driving said tensioned staple forwardly from said staple-supporting means.

43. An applicator as defined in claim 42 wherein said striking means includes an elongate striker mounted to said body for longitudinal movement, and having a front end adapted for impacting the rearward end portion of said staple.

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44. An applicator as defined in claim 42 wherein said means for supporting said staple includes opposing first and second supports adapted for engaging respectively the first and second legs of said staple, and mounted for being adjustably spread apart so as to move said legs to a parallel orientation.

45. An applicator as defined in claim 44 wherein said means for adjustably moving said supports comprises drive means, engaging said first and second supports.

46. An applicator as defined in claim 45 wherein said drive means includes drive screw mechanism.

47. An applicator as defined in claim 42 wherein said means for moving said staple and delivering said staple includes elongate ramp means adapted for slidably engaging inner surfaces of said staple legs and bridge portion, and having surfaces configured so that said legs are pushed from their divergent orientation to parallel orientation by virtue of moving said staple in a direction along said ramp in a direction normal to the plane in which said legs and bridge portion lie; and means for pushing said staple along said ramp means.

48. An applicator as defined in claim 47 including means for biasing a staple along said ramp means towards the proximal end of said ramp means.

REMARKS

The claims of the substitute specification have been amended to cancel the original claims and add claims 37 – 48 which are based on the original claims 25 – 27 (bone staple) and 28 – 36 (bone staple applicator) respectively . The original method claims 21 – 24 have been allowed and are included in a patent to be issued in due course to the Applicant. No new matter has been added.

Respectfully submitted,

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CERTIFICATE OF MAILING:

The undersigned hereby certifies that this correspondence is being deposited with the U.S. Postal Service by way of Her Majesty's Bermuda Post Office, as first class mail in an envelope addressed to: The Commissioner of Patents & Trademarks, Washington, D.C., 20231 on Nov 4, 2001

Date: Nov 4, 2001